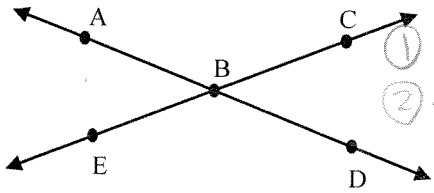
MCA Practice Problems Worksheet #5

(geometry)

Key

Name

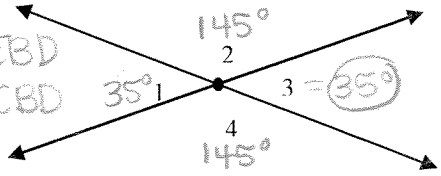
1. Name 2 pairs of vertical angles in the picture below.



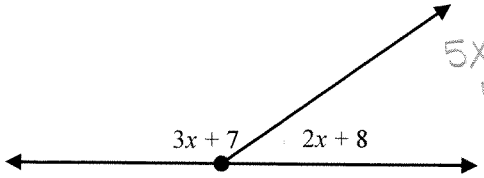
① ∠ABC & ∠EBD

② ∠ABE & ∠CBD

2. Find the missing values in the picture if ∠1 = 35°



3. Find x if the angles pictured are supplementary

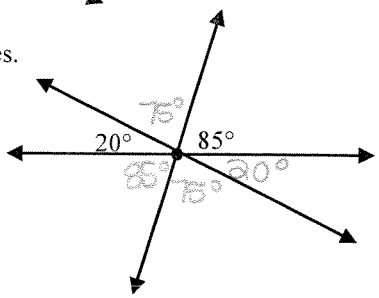


$5x + 15 = 180$

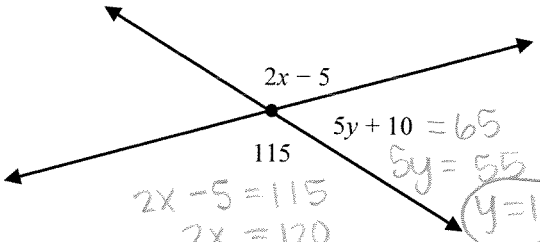
$5x = 165$

$x = 33°$

4. Fill in the missing angle values.



5. Find x and y in the following picture



$5y + 10 = 65$

$5y = 55$

$y = 11$

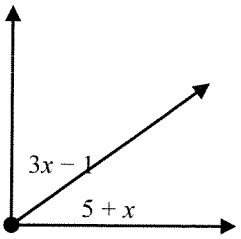
$2x - 5 = 115$

$2x = 120$

$x = 60$

6. Find x if the angles pictured are complementary

90°

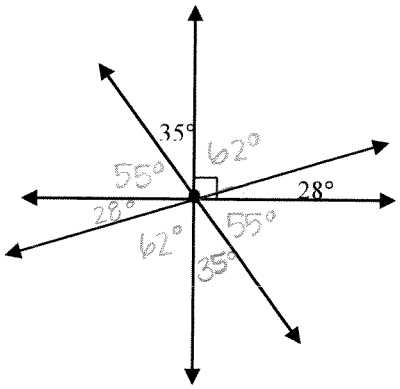


$4x + 4 = 90$

$4x = 86$

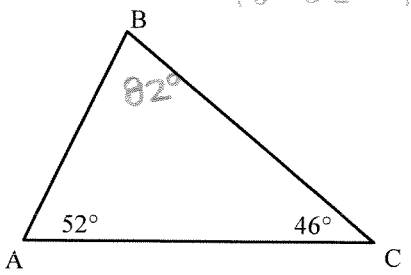
$x = 21.5$

7. Find all the missing angles in the picture

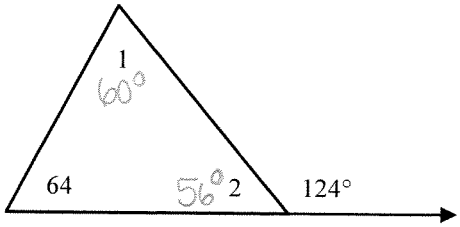


8. Find the missing angle

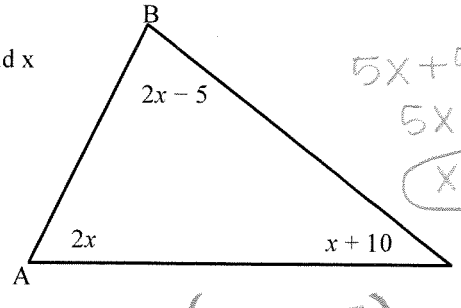
$46 + 52 = 98°$



9. Find the missing angles



10. Find x



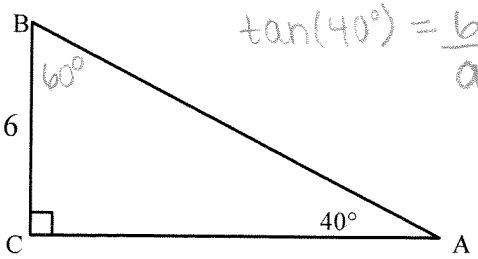
$5x + 5 = 180$

$5x = 175$

$x = 35°$

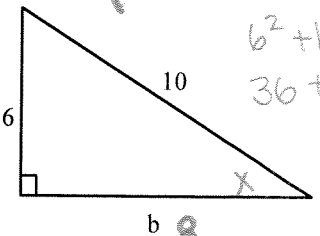
11. Solve for all missing parts of the following right triangles. Use SOHCAHTOA (Choose 5)

a.



$\tan(40°) = \frac{6}{a}$

b.



$6^2 + b^2 = 10^2$

$36 + b^2 = 100$

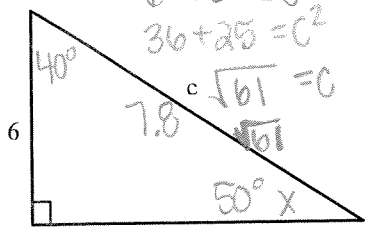
$b^2 = 64$

$b = 8$

8

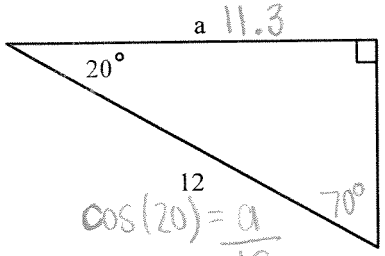
$\tan(x) = \frac{6}{8}$

c.



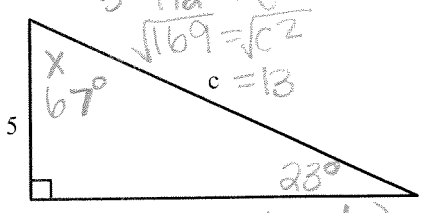
$6^2+5^2=c^2$
$36+25=c^2$
$c\ \sqrt{61}=c$
$\sqrt{61}$
$\tan(x)=\frac{6}{5}$

d.



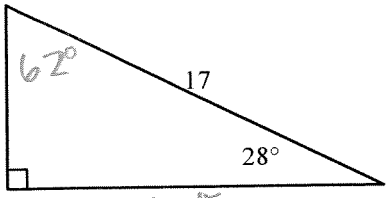
$\sin(20)=x/12=4.1$
$x=4.1$
$\cos(20)=\frac{a}{12}$
$a=11.3$

e.



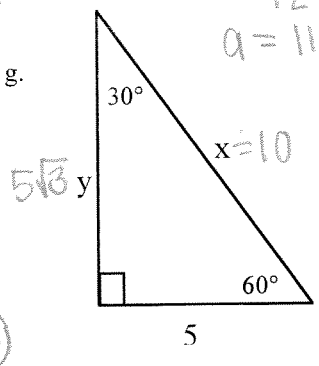
$5^2+12^2=c^2$
$\sqrt{169}=\sqrt{c^2}$
$\tan(x)=\frac{12}{5}$

f.

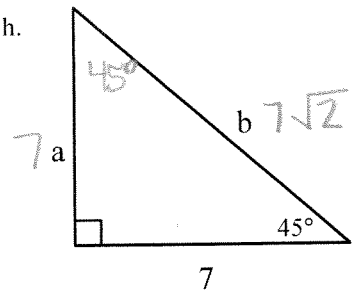


$\sin(28)=\frac{y}{17}$
$x=15$
$y=7.98$
$\cos(28)=\frac{x}{17}=15$

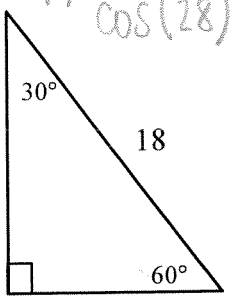
g.



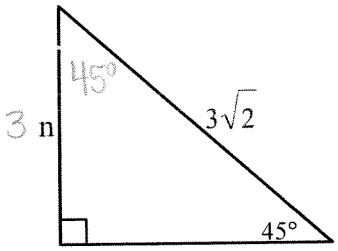
h.



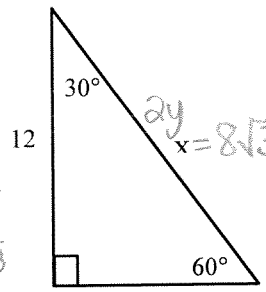
i.



j.



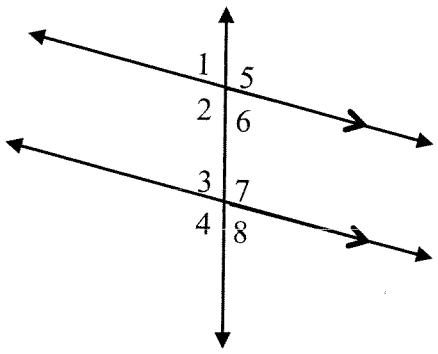
k.



$12=y\sqrt{3}$
$y=\frac{12\sqrt{3}}{3}=4\sqrt{3}$
$y=4\sqrt{3}$

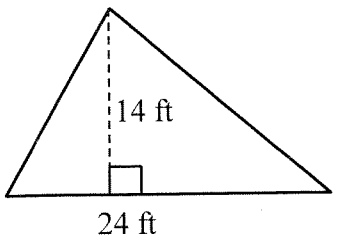
Vertical Angles, Alternate Interior Angles, Corresponding Angles

Use the picture to the left to answer the following.

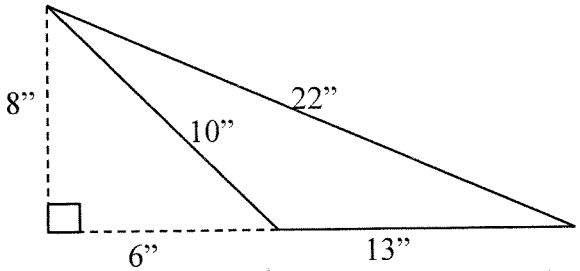


∠1 and ∠6 are vertical
∠2 and ∠4 are corresponding
∠3and ∠ 6 are alternate interior
∠5 and ∠7 are corresponding
∠4 and ∠7 are vertical

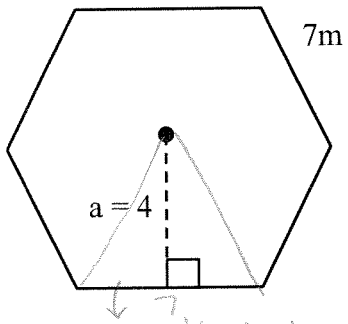
Find the Areas of the following figures



$A=\frac{1}{2}b\cdot h$
$=\frac{1}{2}(24)(14)$
$=12\cdot 14$



$A=\frac{1}{2}\cdot b\cdot h$
$=1/2\cdot 13\cdot 8$
$=4\cdot 13$
$=52\ in^2$



$A\triangle=\frac{1}{2}\cdot b\cdot h$
$=1/2\cdot 7\cdot 4$
$=2\cdot 7=14$
$A(\ )=6\cdot 14=84\ m^2$